

DOPAMINERGIC CELL LINES STABLY EXPRESSING A53T ALPHA-SYNUCLEIN  
AND METHODS OF USING SAME

ABSTRACT OF THE DISCLOSURE

5

[00136] The present invention discloses a PC12 cell line stably expressing human A53T  $\alpha$ -synuclein, wherein a cell of the cell line is characterized by proteasomal dysfunction, dopaminergic dysfunction, lysosomal dysfunction, and increased non-apoptotic cell death, as compared to cells of suitable control cell line not expressing mutant  $\alpha$ -synuclein. Also  
10 provided are methods of making the cells of the present invention. The unique phenotype associated with the cells described herein provide a cellular model for the study of Parkinson's Disease, as well as for other synucleinopathic neurodegenerative disorders, including, but not limited to, Dementia with Lewy Bodies, Lewy Body Variant of Alzheimer's Disease, Multiple System Atrophy and Hallervorden-Spatz syndrome.

15

20

25

30

35